REMARKS

The Examiner is thanked for the performance of a thorough search.

No claims have been amended, canceled, or added. Hence, Claims 1, 4-12, 17, 20-28, and 33-40 are pending in the present application.

Each issue raised in the Office Action mailed April 4, 2008 is addressed hereinafter.

I.   OBJECTIONS TO CLAIMS 17, 20-28, 36-38, AND 40

Claims 17, 20-28, 36-38, and 40 were objected to because of an alleged informality. Specifically, the Office Action alleges that it is not clear whether these claims are in a dependent or independent claim format.

The Applicants respectfully point out that the same claim objections were made in the Office Action that was mailed in this case on February 13, 2006. In a reply filed on May 12, 2006, the Applicants successfully showed that the format of Claims 17, 20-28, 36-38, and 40 is a proper dependent claim format that is explicitly authorized by the applicable patent statutes and regulations, as indicated at least in 35 U.S.C. § 112, paragraph four, 37 C.F.R. § 1.75(c), and MPEP § 608.01(n). As a result, the Office Action mailed on August 8, 2006 withdrew the claim objections.

For the above reasons and as outlined in the reply filed on May 12, 2006, it is respectfully submitted that Claims 17, 20-28, 36-38, and 40 are in a proper dependent claim format. Thus, reconsideration and withdrawal of the objections to Claims 17, 20-28, 36-38, and 40 is respectfully requested.

II.   ISSUES RELATING TO THE PRIOR ART

A.   INDEPENDENT CLAIM 1

Claim 1 was rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Vedula et

al., U.S. Patent No. 6,823,495 ("VEDULA") in view of Warshavsky et al., U.S. Patent No.

6,732,095 ("WARSHAVSKY").

Among other features, Claim 1 comprises the feature of:

...;
using said mapping scheme to perform **a single transformation** that moves said
     XML document directly into said relational database **without
     materializing the entire XML document separate from said XML
     document and said relational database during said transformation**;
... .

It is respectfully submitted that the above feature of Claim 1 is not shown or suggested by

VEDULA and WARSHAVSKY.

The Office Action asserts that the above feature of Claim 1 is described in

WARSHAVSKY. This assertion is incorrect.

In general, WARSHAVSKY describes a method for converting an XML document to

relational data, where the method requires an XML document to be <u>fully and entirely</u>

materialized in an in-memory buffer before being stored in a relational database. Thus, in

essence WARSHAVSKY describes that storing an XML document in a relational database

involves at least a <u>two-step</u> transformation of the XML document: one transformation converts

the <u>entire</u> XML document into an in-memory buffer, and a second transformation stores the data

from the in-memory buffer into the relational database.

For example, in FIG. 1 WARSHAVSKY clearly shows that the source XML document

104 (at the top right-hand corner of the drawing) is first materialized into an in-memory buffer

(see reference numeral 104 in the middle of the drawing), and is then stored in database 110. In

col. 8, lines 9-30, WARSHAVSKY expressly describes that a source XML document is first

entirely materialized as an object instance in memory; then, the object instance of the XML

document is traversed and matched against a metadata schema to determine the fields of the data

record where the elements of the object instance are to be stored. (See also WARSHAVSKY,

col. 4, lines 16-24 and col. 7, lines 43-48.)   Further, in col. 4, lines 34-38 WARSHAVSKY expressly states that an XML document that is to be written into a database is first materialized in computer memory. Thus, if anything, WARSHAVSKY describes that converting an XML document into relational data involves at least a two-step transformation that fully materializes the XML document separate from the source XML document and the corresponding storage in the database.

In contrast, Claim 1 includes the feature of using a mapping scheme to perform a **single** transformation that moves an XML document **directly into** a relational database **without materializing the entire** XML document separate from the XML document and the relational database during said transformation. Thus, in contrast to WARSHAVSKY, this feature of Claim 1 indicates that a **single** transformation moves an XML document **directly into** a relational database **without materializing the entire XML document** during said single transformation.

The differences between Claim 1 and WARSHAVSKY are significant. First, materializing an XML document as an object instance stored in an in-memory buffer, as described in WARSHAVSKY, is an operation that uses a large amount of computing resources such as memory and CPU cycles. For large XML documents such operation would be slow or could not even be performed because of insufficient memory. Second, WARSHAVSKY uses at least two data transformations when storing the XML document into a relational database. Using multiple data transformations, however, also requires more computing resources. In contrast, Claim 1 provides for performing a single transformation to move an XML document directly into a relational database without materializing the entire XML document during said single transformation.

For these reasons, VEDULA and WARSHAVSKY whether taken alone or in combination do not describe or suggest all features of Claim 1. Thus, Claim 1 is patentable

under 35 U.S.C. § 103(a) over VEDULA in view of WARSHAVSKY. Reconsideration and

withdrawal of the rejection of Claim 1 is respectfully requested.

B.   DEPENDENT CLAIM 34

Claim 34 was rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over VEDULA

in view of WARSHAVSKY. The rejection is respectfully traversed.

Claim 34 depends from independent Claim 1, and therefore includes each and every

feature of the independent base claim. Thus, Claim 34 is allowable for the reasons given above

for Claim 1.

In addition, Claim 34 comprises the feature of wherein said **single transformation** is

performed by executing **commands** defined in a programming language that supports

operations to fetch the XML document directly and **store the XML document directly** into

the relational database. The Office Action asserts that this feature is described in VEDULA

and/or WARSHAVSKY. This assertion is incorrect.

As discussed above with respect to Claim 1, VEDULA and WARSHAVSKY do not

describe or suggest performing a **single** transformation that moves an XML document **directly**

into a relational database **without materializing the entire** XML document separate from the

XML document and the relational database during said transformation. Further, VEDULA and

WARSHAVSKY do not describe or suggest any commands that are operable to fetch an XML

document <u>directly</u> and to store the XML document <u>directly</u> into a relational database. Thus,

contrary to the assertion in the Office Action, VEDULA (and WARSHAVSKY) do not describe

the above feature of Claim 34.

For the above reasons, VEDULA and WARSHAVSKY do not describe all features of

Claim 34. Thus, Claim 34 is patentable under 35 U.S.C. § 103(a) over VEDULA in view of

WARSHAVSKY. Reconsideration and withdrawal of the rejection of Claim 34 is respectfully requested.

C. DEPENDENT CLAIM 35

Claim 35 was rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over VEDULA in view of WARSHAVSKY. The rejection is respectfully traversed.

Claim 35 depends from independent Claim 1, and therefore includes each and every feature of the independent base claim. Thus, Claim 35 is allowable for the reasons given above for Claim 1.

In addition, Claim 35 comprises the features of: the mapping scheme includes instructions which define that operations included in the **single transformation** are grouped to represent **a transaction**; and using the mapping scheme to perform the single transformation further comprises **performing** the operations in **the transaction** . The Office Action asserts that this feature is described in VEDULA and/or WARSHAVSKY. This assertion is incorrect.

As discussed above with respect to Claim 1, VEDULA and WARSHAVSKY do not describe or suggest performing a **single** transformation that moves an XML document **directly into** a relational database **without materializing the entire** XML document separate from the XML document and the relational database during said transformation. Further, VEDULA and WARSHAVSKY do not describe or suggest anything indicating that operations included in a single transformation (which moves an XML document directly into a relational database) are grouped in a transaction, and performing the operations in such transaction. Thus, contrary to the assertion in the Office Action, VEDULA (and WARSHAVSKY) do not describe the above feature of Claim 35.

For the above reasons, VEDULA and WARSHAVSKY do not describe all features of Claim 35. Thus, Claim 35 is patentable under 35 U.S.C. § 103(a) over VEDULA in view of

WARSHAVSKY. Reconsideration and withdrawal of the rejection of Claim 35 is respectfully

requested.

D.   DEPENDENT CLAIM 39

Claim 39 was rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over VEDULA

in view of WARSHAVSKY. The rejection is respectfully traversed.

Claim 39 depends from independent Claim 1, and therefore includes each and every

feature of the independent base claim. Thus, Claim 39 is allowable for the reasons given above

for Claim 1.

In addition, Claim 39 comprises the feature of using a mapping scheme to perform a

single transformation that moves an XML document directly into a relational database,

comprising: processing a first XML element of the XML document to move the first XML

element from the XML document to the relational database; and after processing of the first

XML element is completed, processing a second XML element of the XML document to move

the second XML element from the XML document to the relational database, wherein the second

XML element is different from the first XML element. Thus, Claim 39 features moving an XML

document into a relational database in a single transformation by processing the XML document

on an element-by-element basis.

The Office Action asserts that this feature is described in VEDULA and/or

WARSHAVSKY. This assertion is incorrect.

As discussed above with respect to Claim 1, VEDULA and WARSHAVSKY do not

describe or suggest performing a **single** transformation that moves an XML document **directly**

into a relational database **without materializing the entire** XML document separate from the

XML document and the relational database during said transformation. Further, as discussed

above with respect to Claim 1, WARSHAVSKY expressly describes that an XML document is

first <u>entirely</u> materialized as an object instance, and then the object instance is traversed to determine the fields of the data record where the elements of the object instance are to be stored. Thus, contrary to the assertion in the Office Action, WARSHAVSKY expressly teaches away from moving an XML document directly into a relational database in a single transformation by processing the elements of the XML document one by one.

For the above reasons, VEDULA and WARSHAVSKY do not describe all features of Claim 39. Thus, Claim 39 is patentable under 35 U.S.C. § 103(a) over VEDULA in view of WARSHAVSKY. Reconsideration and withdrawal of the rejection of Claim 39 is respectfully requested.

E. DEPENDENT CLAIMS 4-12, 17, 20-28, 33, 36-38, AND 40

Claims 4-12, 17, 20-28, 33, 36-38, and 40 were rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over VEDULA in view of WARSHAVSKY.

Each of Claims 4-12, 17, 20-28, 33, 36-38, and 40 depends directly or indirectly from independent Claim 1, and therefore includes each and every feature of the independent base claim. Thus, each of Claims 4-12, 17, 20-28, 33, 36-38, and 40 is allowable for the reasons given above for Claim 1. In addition, each of Claims 4-12, 17, 20-28, 33, 36-38, and 40 introduces one or more additional features that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those features is not included at this time. Therefore, it is respectfully submitted that Claims 4-12, 17, 20-28, 33, 36-38, and 40 are allowable for at least the reasons given above with respect to Claim 1. Reconsideration and withdrawal of the rejections of Claims 4-12, 17, 20-28, 33, 36-38, and 40 is respectfully requested.

III.   CONCLUSION

The Applicant believes that all issues raised in the Office Action have been addressed.

Further, for the reasons set forth above, the Applicant respectfully submits that allowance of the

pending claims is appropriate. Reconsideration of the present application is respectfully

requested in light of the amendments and remarks herein.

The Examiner is respectfully requested to contact the undersigned by telephone if it is

believed that such contact would further the examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is

hereby made. If applicable, a law firm check for the petition for extension of time fee is

enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of

this application, the Commissioner is hereby authorized to charge any applicable fees and to

credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

Dated: July 2, 2008   /StoychoDDraganoff#56181/
                                                  Stoycho D. Draganoff
                                                  Reg. No. 56,181

2055 Gateway Place, Suite 550
San Jose, California   95110-1089
Telephone No.: (408) 414-1080 ext. 208
Facsimile No.: (408) 414-1076